We claim:

1. A method for the differential diagnosis of pancreatitis and/or a pancreatic cancer, *in vitro*, comprising:
   a) obtaining a test sample from a subject,
   b) contacting test sample with a biologically active surface under specific binding conditions
   c) allowing the biomolecules within the test sample to bind said biologically active surface,
   d) detecting bound biomolecules using a detection method, wherein the detection method generates a mass profile of said test sample,
   e) transforming the mass profile into a computer readable form, and
   f) comparing the mass profile of e) with a database containing mass profiles specific for healthy subjects, subjects having a precancerous lesion of the pancreas, subjects having pancreatic cancer, subjects having metastasised pancreatic cancer, or subjects having pancreatitis,

   wherein said comparison allows for the differential diagnosis of a subject as healthy, having a precancerous lesion of the pancreas, having a pancreatic cancer, having a metastasised pancreatic cancer and/or pancreatitis.

2. The method of claim 1, wherein the database is generated by
   a) obtaining biological samples from healthy subjects, subjects having a precancerous lesion of the pancreas, subjects having pancreatic cancer, subjects having metastasised pancreatic cancer, and subjects having pancreatitis,
   b) contacting said biological samples with a biologically active surface under specific binding conditions,
   c) allowing the biomolecules within the biological samples to bind to said biologically active surface,
   d) detecting bound biomolecules using a detection method, wherein the detection method generates mass profiles of said biological samples,
   e) transforming the mass profiles into a computer-readable form,
   f) applying a mathematical algorithm to classify the mass profiles in e) as specific for healthy subjects, subjects having a precancerous lesion of the pancreas, subjects having pancreatic cancer, subjects having metastasised pancreatic cancer, and subjects having pancreatitis.

3. The method of claim 1, wherein the biomolecules are characterized by:

a) diluting a sample 1:5 in a denaturation buffer consisting of 7 M urea, 2 M thiourea, 4% CHAPS, 1% DTT, 2% Ampholine, at 0° to 4°

b) further diluting said sample 1:10 with a binding buffer consisting of 0.1 M Tris-HCl, 0.02% Triton X-100, pH 8.5 at 0° to 4°

c) contacting the sample with a biologically active surface comprising positively charged quaternary ammonium groups,

d) incubating of the treated sample with said biologically active surface for 120 minutes under temperatures between 20 and 24°C at pH 8.5,

e) and analysing the bound biomolecules by gas phase ion spectrometry.

4. The method of claim 1, wherein the detection method is mass spectrometry.

5. The method of claim 4 wherein the method of mass spectrometry is selected from the group of matrix-assisted laser desorption ionization/time of flight (MALDI-TOF), surface enhanced laser desorption ionisation/time of flight (SELDI-TOF), liquid chromatography, MS-MS, or ESI-MS.

6. The method of claims 1, wherein the biologically active surface comprises an adsorbent selected from the group of quaternary ammonium groups, carboxylate groups, groups with alkyl or aryl chains, groups such as nitriloacetic acid that immobilize metal ions, or proteins, antibodies, or nucleic acids.

7. The method of claim 1, wherein the mass profiles comprise a panel of one or more differentially expressed biomolecules.

8. The method of claim 7, wherein, wherein the biomolecules are selected from a group having the apparent molecular mass of 1624 Da ± 8 Da, 2020 Da ± 10 Da, 2271 Da ± 11 Da, 3951 Da ± 20 Da, 4108 Da ± 20 Da, 4151 Da ± 21 Da, 4249 Da ± 21 Da, 4307 Da ± 22 Da, 4364 Da ± 22 Da, 4480 Da ± 22 Da, 4551 Da ± 23 Da, 4614 Da ± 23 Da, 4649 Da ± 23 Da, 4725 Da ± 24 Da, 4836 Da ± 24 Da, 4875 Da ± 24 Da, 4969 Da ± 25 Da, 5119 Da ± 26 Da, 5497 Da ± 27 Da, 5657 Da ± 28 Da, 5857 Da ± 29 Da, 6458 Da ± 32 Da, 6866 Da ± 34 Da, 6908 Da ± 35 Da, 7013 Da ± 35 Da, 7637 Da ± 38 Da, 8001 Da ± 40 Da, 8237 Da ± 41 Da, 8494 Da ± 42 Da, 8596 Da ± 43 Da, 8717 Da ± 44 Da, 8794 Da ± 44 Da, 8942 Da ± 45 Da, 9099 Da ± 45 Da, 9163 Da ± 46 Da, 9220 Da ± 46 Da, 9312 Da ± 47 Da, 9382 Da ± 47 Da, 9443 Da ± 47 Da, 9502 Da ± 48 Da, 9604 Da ± 48 Da, 9652 Da ± 48 Da, 9741 Da ± 49 Da, 10233 Da ± 51 Da, 10455 Da ± 52 Da, 10748 Da ± 54 Da, 11241 Da ± 56 Da, 11408 Da ± 57 Da, 11488 Da ± 57 Da, 11558

Da ± 58 Da, 11713 Da ± 59 Da, 12648 Da ± 63 Da, 13800 Da ± 69 Da, 13824 Da ± 69 Da, 14206 Da ± 71 Da, 14829 Da ± 74 Da, 15168 Da ± 26 Da, 15378 Da ± 77 Da, 15858 Da ± 79 Da, 15909 Da ± 78 Da, 15984 Da ± 80 Da, 16141 Da ± 81 Da, 16200 Da ± 81 Da, 16384 Da ± 82 Da, 16986 Da ± 85 Da, 17426 Da ± 87 Da, 17932 Da ± 90 Da, 18153 Da ± 91 Da, 18304 Da ± 92 Da, 18424 Da ± 92 Da, 18647 Da ± 93 Da, 19434 Da ± 97 Da, 22981 Da ± 115 Da, 23166 Da ± 116 Da, 28009 Da ± 140 Da, or 28124 Da ± 141 Da.

9. A method for the identification of differentially expressed biomolecules wherein the biomolecules of any of claims 1-8 are proteins, comprising:
   a) chromatography and fractionation,
   b) analysis of fractions for the presence of said differentially expressed proteins and/or fragments thereof, using a biologically active surface,
   c) further analysis using mass spectrometry to obtain amino acid sequences encoding said proteins and/or fragments thereof, and
   d) searching amino acid sequence databases of known proteins to identify said differentially expressed proteins by amino acid sequence comparison.

10. The method of claim 9, wherein the method of chromatography is selected from high performance liquid chromatography (HPLC) or fast protein liquid chromatography (FPLC).

11. The method of claim 9, wherein the mass spectrometry used is selected from the group of matrix-assisted laser desorption ionization/time of flight (MALDI-TOF), surface enhanced laser desorption ionisation/time of flight (SELDI-TOF), liquid chromatography, MS-MS, or ESI-MS.

12. A method for the differential diagnosis of pancreatitis and/or pancreatic cancer, *in vitro*, comprising detection of one or more differentially expressed biomolecules wherein the biomolecules are polypeptides, comprising:
   a) obtaining a test sample from a subject,
   b) contacting said sample with a binding molecule specific for a differentially expressed polypeptide identified in claims 9-11,
   c) detecting the presence or absence of said polypeptide(s),

   wherein the presence or absence of said polypeptide(s) allows for the differential diagnosis of a subject as healthy, having a precancerous lesion of the pancreas, having a pancreatic cancer, having a metastasised pancreatic cancer and/or pancreatitis.

13. The method or kit of any one of claims 1-12, wherein pancreatitis is the chronic form of the disease.

14. The method of any one of claims 1-12, wherein the test sample is a blood, blood serum, plasma, nipple aspirate, urine, semen, seminal fluid, seminal plasma, prostatic fluid, excreta, tears, saliva, sweat, biopsy, ascites, cerebrospinal fluid, milk, lymph, or tissue extract sample.

15. The method of any one of claims 1-12, wherein the biological sample is a blood, blood serum, plasma, nipple aspirate, urine, semen, seminal fluid, seminal plasma, prostatic fluid, excreta, tears, saliva, sweat, biopsy, ascites, cerebrospinal fluid, milk, lymph, or tissue extract sample.

16. The method of any one of claims 1-12, wherein the subject is of mammalian origin.

17. The method of claim 16, wherein the subject is of human origin.

18. A kit for the diagnosis of pancreatitis or a pancreatic cancer within a subject using the method of claim 1-11 and 13-17 comprising a denaturation solution, a binding solution, a washing solution, a biologically active surface comprising an adsorbent, and instructions to use the kit.

19. A kit for the diagnosis of pancreatitis or a pancreatic cancer within a subject using the method of claim 12-17 comprising a solution, binding molecule, detection substrate, and instructions to use the kit.